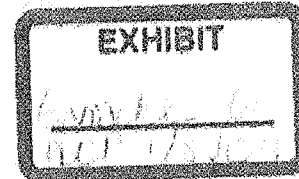


EXHIBIT C

CDM / HAZEN AND SAWYER

A Joint Venture

DEP-FR1
Water Supply
Dependability Strategy1375 Broadway, Suite 1401 • New York, NY 10018
212 221-0462 • Fax: 212 221-9540**PRIVILEGED AND CONFIDENTIAL****Memorandum***To: Tracey Liberi, Rick Cisterna, Eileen Feldman, and Omar Gadalla**From: Dan O'Rourke**Date: March 27, 2008**Subject: Jamaica Phase I Groundwater: Selection of Wells for use in Dependability*

The Jamaica Groundwater Project is the first groundwater project for the New York City Water Supply Dependability Strategy that is moving forward into facility planning (10% design). The project involves providing up to 55 mgd of potable groundwater in Queens. Ultimately, 80 mgd will be withdrawn from the aquifer system in Queens for potable use combining Dependability pumping with potable supply from Station 6 and existing capacity.

To get to a total of 80 mgd for Dependability, 15 mgd from existing capacity wells are combined with 10 mgd from Station 6 cluster, and 55 mgd from the Jamaica Phase I Dependability project being under taken by the JV. The DEP now considers Queens CW to be a Baseline project with a 70 mgd target capacity from the 55 mgd JV project and 15 mgd of existing capacity. The project scope assumes that the existing capacity wells will be maintained and improved as identified in the SYSOPS 09 planning document for standby use. The JV work plan includes sample collection, modeling and evaluation of the existing capacity wells to assess the appropriateness of the current wellhead treatment for meeting the finished water quality goals of the Dependability project (which are yet to be determined). Presently, treatment facilities for 55 mgd are anticipated, and clustering for those facilities has been conceptualized. The JV will evaluate the data, and make recommendations to the steps needed to integrate the 15 mgd into the overall GW program. Facility planning of major modifications to the well site, pumping, treatment facilities, or integration within the 55 mgd treatment plants deemed necessary will require a change in the work plan and project scope.

The Jamaica Groundwater Project will involve existing infrastructure wherever possible to reduce cost and maximize available resources. The DEP has 68 groundwater supply wells in their system, approximately 40% of which are screened in the upper glacial aquifer (Figure 1; Table 1). The upper glacial aquifer is an unconfined surficial aquifer

DEP-FP1

Jamaica Groundwater Project: Well Summary Memorandum

January 5, 2009 ~~March 28, 2008~~

and is therefore the most vulnerable to contamination from surface spills, etc. Because the upper glacial aquifer has a higher susceptibility to surface contamination (WHPP, MPI, 2006), proposed Dependability wells will primarily be screened into the mid and basal portions of the Magothy aquifer.

Although the Magothy aquifer is hydraulically connected to the upper glacial aquifer in most of Queens, wells screened in this aquifer will be much deeper and are therefore at a lower risk of surface contamination than the shallow aquifer. Granted, in areas where the Magothy is unconfined, it is still highly susceptible to surface contamination, but the impacts of surface contamination are lessened due to the depth. Nassau County is entirely dependent on groundwater for drinking water supply. Almost all of the drinking water in Nassau County is withdrawn from the Magothy aquifer. In the past, Nassau County had numerous wells screened in the shallow upper glacial, but as development increased, those wells became contaminated and the County began drilling deeper wells into the underlying Magothy.

The Lloyd aquifer is the deepest aquifer and is confined in most parts of Long Island. However, a moratorium has been issued against drilling new supply wells into the Lloyd and therefore additional wells screened into the Lloyd will not be included for this project. The DEP has 4 wells that are screened into the Lloyd aquifer. One of the four is to be used in Station 6. The remaining 3 are proposed for use under Dependability.

Selecting wells and/or well sites for supply wells associated with the Jamaica Groundwater Project is a detailed process that will involve, contaminant data processing, groundwater modeling, water quality sampling, and integration of the these findings. The wells will be selected based on providing the best possible water quality and at the lowest risk of future contamination. Preliminary well selections in current groundwater model simulations are listed in Table 2. These wells were largely selected based on saltwater intrusion and excessive drawdown concerns. The Jamaica Groundwater Project originally began as the first phase of a three phase project to maximize the aquifer system in Queens. The second and third phases expanded the well network to provide for 150 and 200 mgd, respectively. Pumping at these increased rates created potential for significant saltwater intrusion, particularly in southwestern portions of Jamaica, where saltwater intrusion has previously been documented from operation of the former Woodhaven Franchise.

Well 11 has recently shown elevated concentrations of chloride (423 mg/l in 2002), indicating that the Jameco may be experiencing salt water intrusion at this location. This is supported by model simulations showing the presence of a 10 foot salt water wedge near well 11. Therefore, wells within the vicinity of well 11 (wells 3, 14, 32, and 45) are susceptible to salt water intrusion and are not recommended for use by Dependability. The presence of salt water at wells 3 and/or 32 will be evaluated during the sampling

DEP-FP1

Jamaica Groundwater Project: Well Summary Memorandum

January 5, 2009 ~~March 28, 2008~~

program by the installation of a monitoring well and by logging the well using induction.

The following wells are associated with Station 06 and are therefore not available to Dependability:

- Well 06
- Well 06A
- Well 06B
- Well 06C
- Well 06D
- Well 33

Additional information on Station 6 can be found in the Station 6 Conceptual Design Report (MPI, 2004).

Currently, DEP has 15 mgd of existing capacity from 10 wells with wellhead treatment and can be placed online relatively quickly. The wells and their capacities are as follows:

- Well 05 (air stripper; 1.30 mgd)
- Wells 21 and 21A (GAC; 3.70 mgd, combined)
- Well 22 (GAC; 0.57 mgd)
- Well 26A (GAC; 2.30 mgd)
- Wells 38 and 38A (GAC; 3.60 mgd combined)
- Well 51 (GAC; 1.40 mgd)
- Well 52 (GAC; 0.90 mgd)
- Well 55 (GAC; 2.01 mgd)

Above capacities are based on the design capacities of the GAC systems. Additional information on these wells is shown on Table 3. Well 5 was in full service as recently as February 2007, when it was shut down due to pump failure.

As shown in Table 2, many of the existing well stations are being considered for Dependability well sites. If a well station contains a shallow upper glacial well, a deeper Magothy well is proposed ('proposed replacement' in Table 2). It should be noted that the wells listed in Table 2 are not final and are subject to change based on contamination data processing, water quality data collected during the sampling program, and additional capture zone modeling. The groundwater model is being used to assess the potential relative risk to Dependability wells. Potential sources of contamination are being evaluated and hypothetical contamination is being simulated from these sources to determine if any wells are at risk during Dependability pumping periods. Should model results indicate that a potential well is at a very high risk relative to other supply wells/locations, that well may be further evaluated or removed from further

DEP-FP1

Jamaica Groundwater Project: Well Summary Memorandum

January 5, 2009 ~~March 28, 2008~~

Station 19: One well is installed at Station 19 and is screened in the upper glacial aquifer (Figures 2 and 5). A deep supply well (screened >200 feet deeper to the Raritan Clay) is proposed for Dependability and a monitoring well will be installed to verify water quality. Power is not connected to the station; therefore a groundwater sample from the supply well would be difficult.

Station 21: There are 2 wells installed at this station, wells 21 and 21A, both screened in the Magothy (Figure 7) and included in the 15 mgd of existing capacity. Since the wells are included in the 15 mgd of existing capacity, they are not being proposed for Dependability. Although the wells are included in existing capacity, this station is a potential treatment facility for Dependability. Onsite GAC units were installed in 2002, but have never been used. See MPI SYSOPS-09 Groundwater Reconstruction Report (Task 9.4 Report; MPI, 2002) for additional information.

Station 22: This well is included in the 15 mgd of existing capacity and is screened into the upper glacial aquifer (Figures 2 and 4). It is not being proposed for Dependability. Onsite GAC units were installed in 2002, but have never been used. This well has some microbiological issues which may be due to a leaky casing and may ultimately require to be re-drilled (not under facility planning for Jamaica Groundwater). See MPI SYSOPS-09 Groundwater Reconstruction Report (Task 9.4 Report; MPI, 2002) for additional information.

Station 23: There are 2 wells installed at Station 23, wells 23 and 23A. Well 23 is a shallow upper glacial well (Figure 7), while well 23A is screened in the deep Magothy and is therefore proposed for Dependability. Well 23 has mercury vapor problems in the well house (as of August 2006, needs to be determined if this is still an issue). Station 23 is the possible treatment plant location for the "Hempstead Cluster" as specified in the facility plan and the Groundwater Management Plan (MPI, 2007).

Station 26: There are 2 wells installed at Station 26, wells 26 and 26A. Well 26 is screened in the upper glacial and 26A into the mid-Magothy (Figures 3 and 6). Well 26A is included in the 15 mgd of existing capacity and therefore not proposed for Dependability. Well 26 has reported issues of going dry and well 26A has reported oil/lubrication issues in which water forces oil up through the discharge line. Well 26 is not proposed for Dependability as it is screened in the upper glacial aquifer. See MPI SYSOPS-09 Groundwater Reconstruction Report (Task 9.4 Report; MPI, 2002) for additional information.

Station 27: Well 27 is screened into the shallow Magothy and is a candidate for Dependability (Figure 2). There is, however, significant Magothy below the screen of well 27 and therefore, a future supply well could be installed deeper into the Magothy aquifer. Station 27 is a potential location for a groundwater treatment facility. There are 3 very large above ground storage tanks located at the station.

DEP-FPI

Jamaica Groundwater Project: Well Summary Memorandum

January 5, 2009 ~~March 28, 2008~~

Station 29: There are 2 wells installed at Station 29, well 29 (a shallow upper glacial well) and well 29A, a deeper Magothy well (Figures 3 and 7). Well 29A is being considered for Dependability since it is screened in the Magothy aquifer.

Station 31: Well 31 is an upper glacial well located in an industrial area (see aerial; Figure 4). Since the Gardiners Clay is present in this area, a deeper supply well in the Magothy is proposed at this location and the existing well is not proposed for Dependability due to its high risk of contamination. Station 31 also houses an iron filtration plant and an aerial storage tank (still in use by DEP - this is the only aerial storage tank in Queens that is still in use. The tank also houses a hawk or eagle's nest). The iron filtration plant needs to be replaced.

Station 32: This well is a shallow upper glacial well (Figure 4) and is not proposed for Dependability. Historically, this well has experienced Freon contamination. There is significant Gardiners Clay separating the Jameco from the upper glacial, however, there may be a salt water wedge at this well and will be verified by installing a monitoring well and conducting an induction log.

Station 33: This well is screened in the upper glacial aquifer and is incorporated into the Station 06 treatment plant. Therefore, it will not be included in Dependability.

Station 36: This is a very deep Magothy well and is therefore a good candidate for Dependability (Figure 7). Well 36 has some permit issues regarding blow-off as it is not permitted to discharge to sewer or groundwater. However, Tank 25 is located at Station 36 and can be drained into an onsite recharge basin. Blow-off from well 36 can be discharged to Tank 25 if necessary. The pump for well 36 is relatively new. Historically, this well was shut-down due to "dirty-water" complaints (issue with a distribution regulator). Station 36 is a proposed treatment facility location.

Station 37: This is a deep upper glacial supply well (Figures 2 and 6) and was last operated in 1989. Power is not currently connected to the station. Due to the presence of significant Magothy aquifer, a deeper Magothy supply well is proposed for Dependability at this station.

Station 38: There are 2 wells installed at this station, well 38 (upper glacial) and 38A (Magothy; Figure 6). In addition to onsite GAC units, an air stripper is also onsite. Both of these wells are included in the 15 mgd of existing capacity and are therefore not candidates for Dependability. See MPI SYSOPS-09 Groundwater Reconstruction Report (Task 9.4 Report; MPL, 2002) for additional information.

Station 39: There are two wells installed at Station 39, wells 39 (upper glacial) and 39A (Magothy; Figure 7). One of the wells is housed in an underground bunker. Since well 39A is screened into the Magothy, it is included as a candidate for Dependability. Well

DEP-FP1

Jamaica Groundwater Project: Well Summary Memorandum

January 5, 2009 ~~March 28, 2008~~

39 is inoperable and a new pump is required. Well 39A is in relatively good condition and should be able to pump. Well 39 is not recommended for Dependability at this time.

Station 41: This well is screened in the upper glacial aquifer but cannot be operated. The site currently does not have power and existing infrastructure needs to be replaced. However, since DEP still owns the lot, a deep supply well is proposed for this site (~ 200 feet deeper than the existing well). Therefore a monitoring well will be installed into the Magothy to verify water quality. This well is located on the fringe of the Gardiners Clay and the Magothy is relatively thin.

Station 42: There are two wells installed at this station, wells 42 (upper glacial) and 42A (Magothy; Figures 3 and 6). Well 42A is proposed for Dependability as it is screened in the Magothy aquifer. Historically, water from well 42A has contained high concentrations of iron. The station was last operated in 1982 and reported issues include a new service main.

Station 43: There are two wells installed at this station, wells 43 (upper glacial) and 43A (Magothy; Figure 2). Well 43A is proposed for Dependability.

Station 45: Well 45 is screened in the upper glacial and is not proposed for Dependability. Available geologic maps indicate that the Gardiners Clay should be thick at this station with thick deposits of Jameco below. However, pumping a deep well at this station may promote salt-water intrusion and it is therefore not considered an ideal candidate for Dependability.

Station 46: The former well 46 was screened in the upper glacial aquifer and was approximately 135 feet deep (Figure 6). The well has been abandoned. However, since DEP still owns the lot, it is recommended that a future deep supply well be installed at this station, pending monitoring well water quality results.

Station 47: There are two supply wells at this station, wells 47 (upper glacial) and 47A (Magothy; Figure 7). Both wells have been reported to be contaminated with MTBE (historically). Recent sampling conducted by MPI for the MTBE litigation has shown 1.3 ppb MTBE from well 47 and ND from 47A. Since well 47A is screened in the Magothy, it is being proposed for Dependability, pending water quality results.

Station 48: There are two wells at this station, wells 48 (upper glacial) and 48A (Magothy; Figure 3). Since well 48A is installed in the Magothy, it was originally included as a potential supply well. However, recent water quality sampling for MTBE has shown concentrations of PCE in well 48A exceeding 3,000 ug/l. Therefore, due to increased contamination at Station 48, these wells may not be ultimately incorporated into Dependability. However, the source and extent of PCE should be investigated for potential remediation (to protect down gradient supply wells). An air stripper is currently installed at Station 48.

EXHIBIT D

Marnie A. Bell, P.E.

Page 336

1 IN THE UNITED STATES DISTRICT COURT
 2 FOR THE SOUTHERN DISTRICT OF NEW YORK

3 - - -

4 IN RE: METHYL : Master File
 5 TERTIARY BUTYL ETHER : C.A. No.
 ("MTBE") PRODUCTS : 1:00-1898
 6 LIABILITY LITIGATION :
 : MDL 1358(SAS)

7 This document relates :
 to the following : M21-88
 8 cases: :
 :

9 City of New York v. :
 Amerada Hess Corp., et :
 10 al, 04 Civ. 3417 :
 :

11 - - -

12 April 21, 2009

13 - - -

14
 15 Continued videotaped
 expert deposition of MARNIE A. BELL, P.E.,
 16 taken pursuant to notice, was held at the
 law offices of McDermott Will & Emery
 17 LLP, 340 Madison Avenue, New York, New
 York, beginning at 9:58 a.m., on the
 18 above date, before Kimberly A. Cahill, a
 Federally Approved Registered Merit
 19 Reporter and Notary Public.

20 - - -

21
 22 GOLKOW TECHNOLOGIES, INC.
 877.370.3377 ph | 917.591.5672 fax
 23 deps@golkow.com
 24

Marnie A. Bell, P.E.

<p style="text-align: right;">Page 465</p> <p>1 However, this system was not designed for 2 MTBE removal and was installed outdoors 3 on an emergency basis in 2002; therefore, 4 it is assumed that all new facilities 5 would be provided for on-site treatment." 6 Do you see that? 7 A. Yes, I do. 8 Q. What is the significance of 9 the fact that the previous GAC system was 10 installed outdoors? 11 A. The GAC system was installed 12 on a fast-track basis in an emergency and 13 it was installed outdoors. Construction 14 of a new facility would likely require 15 that the facilities be located indoors. 16 Q. And why did Malcolm Pirnie 17 install that GAC system outdoors? 18 A. Again, approval was obtained 19 because it was an emergency. 20 Q. And at the time, Malcolm 21 Pirnie didn't feel that a building needed 22 to be installed around the GAC system? 23 MS. AMRON: Objection as to 24 form. I think it's been asked and</p>	<p style="text-align: right;">Page 467</p> <p>1 A. The existing system was not 2 designed for MTBE removal. It doesn't 3 provide enough empty bed contact time. 4 Additionally, the equipment 5 has not been operated frequently and is 6 potentially in poor condition; therefore, 7 we assumed that all new facilities would 8 be provided. 9 Q. Did you inspect that 10 equipment to determine if it was in poor 11 condition? 12 A. I did not inspect it; 13 however, I know from conversations with 14 staff that there are issues with some of 15 the existing equipment. 16 Q. What staff is that? 17 A. That could be Andy 18 Kochinsky, I've had discussions related 19 to that. 20 Q. And what did Andy tell you 21 about the pre-existing equipment? 22 A. There's issues with valves 23 leaking and holding. 24 Q. The valves are leaking at</p>
<p style="text-align: right;">Page 466</p> <p>1 answered, but... 2 THE WITNESS: At the time, 3 because it was a drought and the 4 equipment needed to be installed 5 as quickly as possible, a building 6 was not provided. 7 BY MS. KALNINS TEMPLE: 8 Q. Did you recommend that a 9 building be provided at that time? 10 A. That -- I don't -- I don't 11 recall if that recommendation was made. 12 Q. And have you inspected the 13 current GAC system installed at well 22 14 in connection with developing your expert 15 opinions in this case? 16 A. No, I haven't personally 17 inspected the existing system. 18 Q. And does your proposed 19 design for well 22 relative to the GAC 20 technology include any components of the 21 pre-existing equipment? 22 A. No. We assumed that all new 23 facilities would be provided. 24 Q. And why is that?</p>	<p style="text-align: right;">Page 468</p> <p>1 well 22; that's what he told you? 2 A. I don't know if it's 3 specifically at well 22, but in general 4 for the GAC systems. 5 Q. I'm actually asking you in 6 connection with well 22. Did anyone from 7 Malcolm Pirnie go to inspect that 8 specific GAC system to determine the 9 condition of the equipment before you 10 determined that it couldn't be used on 11 the well for purposes of your expert 12 opinions in this case? 13 A. No, no one from Malcolm 14 Pirnie went to 22 to personally inspect 15 the GAC. 16 Again, that assumption was 17 based on our general knowledge of 18 equipment and the fact that the existing 19 equipment was not designed for MTBE 20 removal. 21 Q. If you could take a look at 22 the document we marked as Exhibit 14, I'd 23 like to ask you whether or not you 24 reviewed that document in connection with</p>

34 (Pages 465 to 468)

Marnie A. Bell, P.E.

<p style="text-align: right;">Page 621</p> <p>1 station 6 wells?</p> <p>2 MS. AMRON: Objection as to</p> <p>3 form.</p> <p>4 THE WITNESS: That, I'm not</p> <p>5 sure of. Don could probably</p> <p>6 provide a better answer on the</p> <p>7 timing of that.</p> <p>8 MS. KALNINS TEMPLE: Okay.</p> <p>9 Why don't we take one quick break,</p> <p>10 and then I'm going to wrap it up</p> <p>11 and turn it over to Trey.</p> <p>12 THE VIDEO TECHNICIAN: We're</p> <p>13 going off the record. The time is</p> <p>14 4:39 p.m.</p> <p>15 (A recess was taken from</p> <p>16 4:39 p.m. to 4:45 p.m.)</p> <p>17 THE VIDEO TECHNICIAN: We're</p> <p>18 back on the record. The time is</p> <p>19 4:45 p.m.</p> <p>20 BY MS. KALNINS TEMPLE:</p> <p>21 Q. Ms. Bell, with regard to the</p> <p>22 work that you performed in this case, do</p> <p>23 you understand that the City is seeking</p> <p>24 \$300 million in damages to pay for the</p>	<p style="text-align: right;">Page 623</p> <p>1 money or not.</p> <p>2 In regards to the other</p> <p>3 focus wells, the City needs to decide if</p> <p>4 those wells will be used, if they desire</p> <p>5 to use those wells for treatment.</p> <p>6 And I think the City really</p> <p>7 needs to make that decision on whether</p> <p>8 they want to proceed with treatment on</p> <p>9 the other wells.</p> <p>10 Q. Okay.</p> <p>11 Because as to the other</p> <p>12 wells, they may or may not go into</p> <p>13 service; correct?</p> <p>14 A. I'm not sure of that. I</p> <p>15 know they're -- the City's doing</p> <p>16 additional work under the JV</p> <p>17 dependability study to look at use of the</p> <p>18 groundwater wells.</p> <p>19 Q. And with regard to station</p> <p>20 6, regardless of who pays for it, Malcolm</p> <p>21 Pirnie profits on the construction of the</p> <p>22 station 6 treatment plant; correct?</p> <p>23 MS. AMRON: Objection as to</p> <p>24 form.</p>
<p style="text-align: right;">Page 622</p> <p>1 treatment systems that you've proposed</p> <p>2 for installation?</p> <p>3 A. I'm aware of the costs as</p> <p>4 I've presented them in my expert report.</p> <p>5 Q. And Malcolm Pirnie's been</p> <p>6 working on the station 6 treatment plant</p> <p>7 since before MTBE was detected in the</p> <p>8 wells; isn't that correct?</p> <p>9 A. I believe so, yes.</p> <p>10 Q. And assuming in this case</p> <p>11 that the City were to fail to recover the</p> <p>12 money that you've indicated is necessary</p> <p>13 for treatment in this case, would it be</p> <p>14 your opinion that the City should still</p> <p>15 install the treatment systems you've</p> <p>16 proposed for the focus wells?</p> <p>17 A. Is it my opinion that the</p> <p>18 treatment should be installed for the</p> <p>19 focus wells regardless of whether or not</p> <p>20 the City recovers any money?</p> <p>21 Q. Yep.</p> <p>22 A. It's my opinion on station 6</p> <p>23 that treatment should be installed</p> <p>24 regardless whether the City recovers</p>	<p style="text-align: right;">Page 624</p> <p>1 THE WITNESS: I'm not sure</p> <p>2 if that's correct or not. There's</p> <p>3 a chance that the design for the</p> <p>4 station 6 project may be</p> <p>5 competitively bid. It's not</p> <p>6 guaranteed that Malcolm Pirnie</p> <p>7 will have the design work for that</p> <p>8 project.</p> <p>9 BY MS. KALNINS TEMPLE:</p> <p>10 Q. Isn't it in the process of a</p> <p>11 negotiated acquisition?</p> <p>12 A. It was. I'm not sure what</p> <p>13 the status of that is. I thought it was</p> <p>14 on hold at this point.</p> <p>15 Q. Who would know the status of</p> <p>16 that?</p> <p>17 A. That would be someone from</p> <p>18 DEP, like Venetia Barnes or William</p> <p>19 Meakin.</p> <p>20 Q. With respect to your</p> <p>21 professional work, in your career, have</p> <p>22 you become aware of any other water</p> <p>23 provider with an internal threshold or</p> <p>24 standard for MTBE of nondetect?</p>

73 (Pages 621 to 624)